

### **REMARKS**

Claims 1, 5-7, 9, 11, and 27 remain in the application. Claim 1 has been amended to incorporate the subject matter of Claim 2, which has been cancelled. Specifically, Claim 1 now recites that the PPAR-gamma agonist is rosiglitazone. Since Claim 2 has been cancelled, Claim 5 has been amended to correct its dependency. No new matter has been added by way of this amendment.

The Applicants make this amendment to only expedite prosecution and do not give up the right to pursue the originally-claimed subject matter in continuing applications. Entry of this Amendment and reconsideration of this Application is respectfully requested.

### **35 U.S.C. §103 Rejections**

The Examiner had rejected Claims 1, 2, 5-7, 9, 11, and 27 under 35 USC 103(a) as obvious over the combination of U.S. Patent No. 5,443,458 (“Eury”) and WO 01/07066 (WO ‘066). Assuming, *arguendo*, that WO ‘066 is prior art, it only may be prior art under 35 U.S.C. § 102(a) as of its publication date, February 1, 2001. The concurrently-filed 37 C.F.R. §1.131 Declaration of David Ruschke and the evidence submitted therewith establish that the claimed invention was reduced to practice before February 1, 2001.

The above-identified application is assigned to MEDTRONIC AVE, INC (“assignee”) and that assignment was recorded in the U.S. Patent and Trademark Office on May 6, 2002, at Reel 012871, Frame 0914. The name of assignee has since changed to Medtronic Vascular, Inc. Inventor Robert L. Cafferata no longer works for the assignee. An “assignee or other party in interest” may submit a declaration under 37 C.F.R. §1.131 “when it is not possible to produce the affidavit or declaration of the inventor.”<sup>1</sup> David Ruschke, is the Chief Patent Counsel of Medtronic Vascular, Inc. and is authorized to execute documents on behalf of the assignee.

The Applicants have established that WO ‘066 is not prior art to the present application and Eury alone is insufficient to maintain the obviousness rejection. Accordingly, the Applicants respectfully request withdrawal of this rejection.

---

<sup>1</sup> MPEP 715.04 (I)(D).

**35 U.S.C. §102 Rejections**

The Examiner had rejected Claims 1, 5-6, and 9 under 35 USC 102(b) as being anticipated by U.S. Patent No. 5,449,382 ("Dayton"). By way of this amendment, the Applicants have incorporated Claim 2 into independent Claim 1. The Examiner did not reject Claim 2 over Dayton. Thus, Claim 1 and its dependent Claims 5-6 and 9 now must be allowable over Dayton. Accordingly, the Applicants respectfully request withdrawal of this rejection.

**CONCLUSION**

For the reasons discussed, the Applicants respectfully submit that all pending claims are in condition for allowance and should be passed to issue. The Commissioner is hereby authorized to charge any additional fees which may be required under 37 C.F.R. 1.17, or credit any overpayment, to Deposit Account No. 01-2525. If any issues remain, the Examiner is invited to call the undersigned at telephone (707) 543-5021.

Respectfully submitted,

/Alan M. Krubiner, Reg. No. 26,289/  
Alan M. Krubiner  
Registration No. 26,289  
Attorney for Applicant

Medtronic Vascular, Inc.  
3576 Unocal Place  
Santa Rosa, CA 95403  
Facsimile No.: (707) 543-5420

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Appln. No.	:	10/085,539	Confirmation No.:	9853
Applicant	:	CARLYLE, Wenda		
Filed	:	February 26, 2002		
TC/A.U.	:	1616		
Examiner	:	WEBMAN, Edward J.		
Docket No.	:	P872		
Customer No.	:	28390		
Title	:	PEROXISOME PROLIFERATOR-ACTIVATED RECEPTOR GAMMA LIGAND ELUTING MEDICAL DEVICE		

Mail Stop AMENDMENT  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

**DECLARATION OF DAVID RUSCHKE UNDER 37 CFR § 1.131**

I, DAVID RUSCHKE, declare the following:

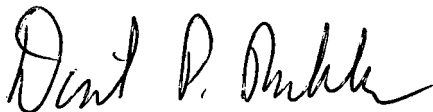
1. I am Chief Patent Counsel for, MEDTRONIC VASCULAR, INC.
2. I understand that the above-identified application is assigned to MEDTRONIC AVE, INC. ("ASSIGNEE") and that assignment was recorded in the U.S. Patent and Trademark Office on 06 May 2002 at Reel 012871, Frame 0914.
3. Assignee's name was changed to Medtronic Vascular, Inc. on September 9, 2003 as evidenced by Amended and Restated Certificate of Incorporation of Medtronic Ave, Inc., attached hereto as Exhibit C.
4. I am authorized to execute documents on behalf of ASSIGNEE, Medtronic Vascular, Inc..
5. I understand that in an Office Action dated 14 April 2007, the Examiner rejected Claims 1, 2, 5-7, 9, 11, and 27, of the above-identified application under 35 U.S.C. §103(a) as obvious

over the combination of U.S. Patent No. 5,443,458 and International Publication No. WO 01/07066.

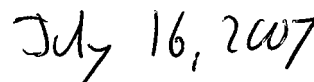
6. I understand that International Publication No. WO 01/07066 was filed on 19 July 2000 and published on 1 February 2001. The cover page of International Publication No. WO 01/07066 is attached as EXHIBIT A.

7. Two redacted laboratory notebook pages of inventor Larry Cafferata, which were prepared in the United States and witnessed by Wenda Carlyle before 1 February 2001, are attached as EXHIBIT B. I understand that the laboratory notebook pages summarize and evidence the reduction to practice of the subject matter claimed in the above-identified application. EXHIBIT B, page 1, paragraph 1, describes a stent designed to improve the treatment of restenosis by eluting ligands of peroxisome proliferator-activated receptor gamma (PPAR $\gamma$ ) from the stent. EXHIBIT B, page 1, paragraphs 2 and 6, and page 2, paragraph 1, disclose that rosiglitazone is a PPAR $\gamma$  ligand and is of particular interest to elute from a stent to treat restenosis.

8. All statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further, that the statements were made with the knowledge that willful false statements and the like are punishable by fine or imprisonment, or both, under 18 U.S.C. 1001, and may jeopardize the validity of this application or any patents issuing thereon.



David Ruschke  
Chief Patent Counsel,  
Medtronic Vascular, Inc.



Date

# **EXHIBIT A**

(19) World Intellectual Property Organization  
International Bureau



(43) International Publication Date  
1 February 2001 (01.02.2001)

PCT

(10) International Publication Number  
**WO 01/07066 A2**

(51) International Patent Classification<sup>7</sup>: **A61K 38/00**

Research Centre, Ninewells Hospital and Medical School,  
Dundee, Tayside DD1 9SY (GB).

(21) International Application Number: **PCT/EP00/06986**

(74) Agent: **RUTTER, Keith**; SmithKline Beecham, Two New  
Horizons Court, Brentford, Middlesex TW8 9EP (GB).

(22) International Filing Date: **19 July 2000 (19.07.2000)**

(25) Filing Language: **English**

(26) Publication Language: **English**

(30) Priority Data:  
**9917405.4** **23 July 1999 (23.07.1999)** **GB**

(81) Designated States (*national*): AE, AG, AL, AM, AT, AU,  
AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ,  
DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR,  
HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR,  
LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ,  
NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM,  
TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW.

(71) Applicant (*for all designated States except US*): **THE  
UNIVERSITY OF DUNDEE** [GB/GB]; 11 Perth Road,  
Dundee, Tayside DD1 4HN (GB).

(84) Designated States (*regional*): ARIPO patent (GH, GM,  
KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW), Eurasian  
patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European  
patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE,  
IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG,  
CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).

(72) Inventors; and

(75) Inventors/Applicants (*for US only*): **PALMER, Colin**,  
Neil, Alexander [GB/GB]; The University of Dundee,  
Biomedical Research Centre, Ninewells Hospital and Med-  
ical School, Dundee, Tayside DD1 9SY (GB). **VOSPER**,  
Helen [GB/GB]; The University of Dundee, Biomedical  
Research Centre, Ninewells Hospital and Medical School,  
Dundee, Tayside DD1 9SY (GB). **WOLF, Charles**,  
Roland [GB/GB]; The University of Dundee, Biomedical

**Published:**

— *Without international search report and to be republished  
upon receipt of that report.*

*For two-letter codes and other abbreviations, refer to the "Guid-  
ance Notes on Codes and Abbreviations" appearing at the begin-  
ning of each regular issue of the PCT Gazette.*

(54) Title: **METHODS OF TREATMENT AND DRUG SCREENING METHODS**

(57) Abstract: A method of preventing or reducing foam cell development from macrophages, or removing foam cells, in a patient, the method comprising administering to the patient an effective amount of an inhibitor of PPAR $\delta$  activity. A method of preventing or treating a vascular disease associated with plaque formation and/or thrombotic blockage of the blood vessels in a patient, the method comprising administering to the patient an effective amount of an inhibitor of PPAR $\delta$  activity.

**WO 01/07066 A2**

## **EXHIBIT B**

**INVENTION:** I DISCLOSE A MODIFICATION TO A STENT DESIGNED TO IMPROVE THE TREATMENT OF RESTENOSIS BY ELUTING LIGANDS OF PEROXISOME PROLIFERATOR-ACTIVATED RECEPTOR GAMMA (PPAR $\gamma$ ) FROM THE STENT. IN ITS SIMPLEST EMBODIMENT, A SINGLE PPAR $\gamma$  LIGAND IS ADDED TO A STENT BEFORE IMPLANTATION IN A PHARMACEUTICALLY SUFFICIENT DOSE & WITH SUFFICIENT DURATION OF ELUTION TO BLOCK THE LOCAL INCIDENCE OF RESTENOSIS AFTER STENT DEPLOYMENT IN THE BODY.

**RATIONALE FOR CHOOSING PPAR $\gamma$  LIGANDS:** PPAR $\gamma$  IS A MEMBER OF A NUCLEAR RECEPTOR SUPERFAMILY THAT IS ACTIVATED BY BINDING CERTAIN LIGANDS. THESE LIGANDS CAN BE CHOSEN FROM CERTAIN FATTY ACIDS, EICOSANOIDS AND INSULIN-SENSITIZING THIAZOLIDINEDIONES. SEVERAL PHARMACEUTICAL DRUGS ARE PART OF THIS LATTER CLASS: ROSIGLITAZONE, PIOGLITAZONE & TROGLITAZONE.

AN IMPORTANT CHARACTERISTIC OF ANTI-RESTENOTIC DRUGS AGENTS IS THEIR ABILITY TO INHIBIT SMOOTH MUSCLE CELL (SMC) PROLIFERATION. PPAR $\gamma$  LIGANDS ARE KNOWN TO INHIBIT VASCULAR SMC PROLIFERATION PROBABLY BY DIRECT INHIBITION OF CYCLIN-DEPENDENT KINASES (1, 2).

SECOND PROPERTY KEY IN AN ANTI-RESTENOTIC AGENT IS INHIBITION OF SMC MIGRATION (e.g. FROM THE MEDIA TO THE NEointIMA OF AN ARTERY). PPAR $\gamma$  LIGANDS BLOCK MIGRATION OF VASCULAR SMCs (1).

THIRD PROPERTY FOR AN ANTI-RESTENOTIC AGENT IS ITS ABILITY TO BLOCK LOCAL INVASION/ACTIVATION OF MONOCYTES & THEIR ENSUING SECRETION OF GROWTH FACTORS/CKs WHICH PRESUMABLY TRIGGER SMC ENTRY INTO THE CELL CYCLE. PPAR $\gamma$  AGONISTS INHIBIT MONOCYTE MIGRATION & PROINFLAMMATORY CYTOKINE PRODUCTION BY MONOCYTES (3). INTERESTINGLY, IT IS KNOWN THAT CERTAIN NON-STEROIDAL ANTI-INFLAMMATORY DRUGS (NSAIDs) LIKE SULINDAC ARE ANTI-RESTENOTIC IN CBS WITH PLAQUE-LIKE LESIONS (4). THIS COULD BE RELATED TO THE FACT THAT NSAIDs HAVE PPAR $\gamma$  AGONIST ACTIVITY AT HIGH CONCENTRATIONS (5).

RECENT CLINICAL FINDINGS DEMONSTRATE THAT PATIENTS DOSED SYSTEMICALLY WITH ROSIGLITAZONE HAVE REDUCED NEointIMAL PROLIFERATION AT SIX-MONTHS AFTER CORONARY STENT IMPLANTATION (6). UNFORTUNATELY THIS DRUG, UNDER THE TRADE NAME REZULIN, IS WITHDRAWN FROM USE IN TREATING TYPE II DIABETICS BECAUSE OF EXCESSIVE LIVER KIDNEY. SINCE PLASMA DRUG LEVELS WERE SIMILAR IN BOTH CASES, IT IS LIKELY THAT THE ANTI-RESTENOTIC EFFECTS OF SYSTEMIC TROGLITAZONE COULD ALSO LEAD TO

*[Signature]*



From Page No. 27

DEATHS FROM LIVER TOXICITY. ONE OF THE PURPOSES OF THE PRESENT INVENTION IS TO REDUCE THE DOSE & BIODISTRIBUTION OF THIS DRUG BY ELUTING IT <sup>LOCALLY</sup> FROM A STENT WITHIN THE BODY LUMEN BEING TREATED FOR RESTENOSIS.

### METHODS FOR COMBINING PHARMACEUTICAL DOSAGE FORMS INTO IMPLANTABLE DEVICES

- PRECIPITATION, COACERVATION, CRYSTALLIZATION OF DRUG ONTO THE SURFACE OF STENT (OR WEBS/CHANNELS PLACED IN THE BODY OF THE STENT AS DRUG RESERVOIR)
- BLENDING WITH POLYMERS THAT COAT THE SURFACE OF THE STENT (& ITS CHANNELS) & ACT AS A DIFFUSION-BARRIER TO CONTROL RELEASE OF DRUG
- ADDITION TO THE MATERIAL USED TO COMPOUND ERODIBLE POLYMERIC STENTS.
- CONTACT WITH CHEMICALLY REACTIVE SURFACES (FILMS) BONDED TO THE SURFACE OF THE STENT. ONE SUCH EXAMPLE WAS ANTICIPATED IN RAPID IN-SITU RELASING "DRUG IMPLANT (pp 7-11).

### REFERENCES

1. LAW, R.F. *et al* J Clin Invest 1996, 98(8):1897-1905.
2. WAKING, S. *et al* J Biol Chem 2000, 275(29):22435-41.
- 3a. KINTSCHER, U. *et al* Eur J. Pharmacol 2000 401(3):259-70.
- 3b. USP # 5,925,657
4. REIS, E.D. *et al* Proc. Natl Acad Sci USA 2000 97(23):12764-9.
5. JIANG, C. *et al* NATURE 1998 391(662):82-86.
6. TAKAGI, T. *et al* J Am Coll Cardiol 2000 36(5):1529-35.

Witnessed &amp; Understood by me,

Invented by

ROBERT L. CAFFARATI

Recorded by

1/11/01

To Page No.

# **EXHIBIT C**

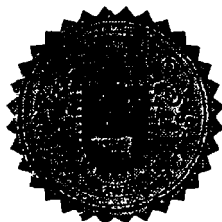
# Delaware

PAGE 1

*The First State*

I, HARRIET SMITH WINDSOR, SECRETARY OF STATE OF THE STATE OF DELAWARE, DO HEREBY CERTIFY THE ATTACHED IS A TRUE AND CORRECT COPY OF THE RESTATED CERTIFICATE OF "MEDTRONIC AVE, INC.", CHANGING ITS NAME FROM "MEDTRONIC AVE, INC." TO "MEDTRONIC VASCULAR, INC.", FILED IN THIS OFFICE ON THE NINTH DAY OF SEPTEMBER, A.D. 2003, AT 1:20 O'CLOCK P.M.

A FILED COPY OF THIS CERTIFICATE HAS BEEN FORWARDED TO THE NEW CASTLE COUNTY RECORDER OF DEEDS.



2269660 8100

030580192

*Harriet Smith Windsor*

Harriet Smith Windsor, Secretary of State  
AUTHENTICATION: 2622839

DATE: 09-09-03

**AMENDED AND RESTATED CERTIFICATE OF INCORPORATION  
OF  
MEDTRONIC AVE, INC.**

Medtronic AVE, Inc., a corporation organized and existing under the General Corporation Law of the State of Delaware, hereby certifies as follows:

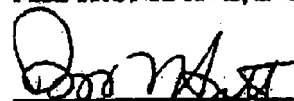
1. The name of the corporation is "Medtronic AVE, Inc." Its original Certificate of Incorporation was filed with the Secretary of State on July 30, 1991 under the name "Applied Vascular Engineering, Inc." Through subsequent filings with the Secretary of State, the name was changed to "Arterial Vascular Engineering, Inc." on January 30, 1996 and to "Medtronic AVE, Inc." on January 28, 1999, as the result of a merger on that date with MAY Merger Corp., which was incorporated in the State of Delaware on November 24, 1998.

2. The Amended and Restated Certificate of Incorporation of the corporation, in the form attached hereto as Exhibit A, has been duly adopted by the corporation's Board of Directors and sole stockholder in accordance with the provisions of Sections 141, 228, 242 and 245 of the General Corporation Law of the State of Delaware pursuant to unanimous written consent with waiver of meeting notice.

3. The Amended and Restated Certificate of Incorporation so approved reads in full as set forth in Exhibit A hereto and is hereby incorporated by reference herein.

IN WITNESS WHEREOF, Medtronic AVE, Inc. has caused this Certificate to be signed by David J. Scott, its Vice President and Secretary, this 8th day of September 2003.

MEDTRONIC AVE, INC.



David J. Scott, Vice President and Secretary

ATTEST:



Carol E. Malkinson, Assistant Secretary

Exhibit A

**AMENDED AND RESTATED CERTIFICATE OF INCORPORATION  
OF  
MEDTRONIC VASCULAR, INC.**

**ARTICLE 1 - NAME**

The name of the corporation shall be Medtronic Vascular, Inc.

**ARTICLE 2 - REGISTERED OFFICE AND AGENT**

The registered office of the corporation in the State of Delaware is 1209 Orange Street, in the City of Wilmington, County of New Castle, Delaware, 19801. The name of its registered agent at such address is The Corporation Trust Company.

**ARTICLE 3 - PURPOSES**

The nature of the business or purposes to be conducted or promoted by the corporation is to engage in any lawful acts and activities for which corporations may be organized under the General Corporation Law of Delaware.

**ARTICLE 4 - STOCK**

The aggregate number of shares the corporation has authority to issue shall be 2,500 shares of Common Stock, \$.01 par value. Holders of Common Stock shall be entitled to one vote for each share of Common Stock held of record.

**ARTICLE 5 - RIGHTS OF STOCKHOLDERS**

5.1) **No Preemptive Rights.** No holder of shares of the corporation of any class now or hereafter authorized has any preferential or preemptive right to subscribe for, purchase or receive any shares of the corporation of any class now or hereafter authorized, or any options or warrants for such shares, which may at any time be issued, sold or offered for sale by the corporation.

5.2) **No Cumulative Voting Rights.** No holder of shares of the corporation of any class now or hereafter authorized shall be entitled to cumulative voting.

## ARTICLE 6 - MEETINGS AND BOOKS

6.1) Meetings of Stockholders and Election of Directors. Meetings of stockholders may be held within or outside the State of Delaware, as the Bylaws may provide. Elections of directors need not be by written ballot unless and except to the extent that the Bylaws so provide.

6.2) Corporate Books. The books of the corporation may be kept within or (subject to any provision contained in the statutes) outside the State of Delaware at such place or places as may be designated from time to time by the Board of Directors or in the Bylaws of the corporation.

## ARTICLE 7 - LIMITATION OF DIRECTOR LIABILITY

To the fullest extent permitted by the Delaware General Corporation Law, as the same exists or may hereafter be amended, a director of the corporation shall not be liable to the corporation or its stockholders for monetary damages for breach of fiduciary duty as a director. If the Delaware General Corporation Law is amended after the date of the filing of this Amended and Restated Certificate of Incorporation to authorize corporate action further eliminating or limiting the personal liability of directors, then the liability of a director of the corporation shall be eliminated or limited to the fullest extent permitted by the Delaware General Corporation Law, as so amended from time to time. No repeal or modification of this Article 7 by the stockholders shall adversely affect any right or protection of a director of the corporation existing by virtue of this Article 7 at the time of such repeal or modification.

## ARTICLE 8 - BYLAWS

The Board of Directors is expressly authorized to make and alter Bylaws of this corporation, subject to the power of the stockholders to change or repeal such Bylaws and subject to any other limitations on such authority provided by the General Corporation Law of Delaware.